

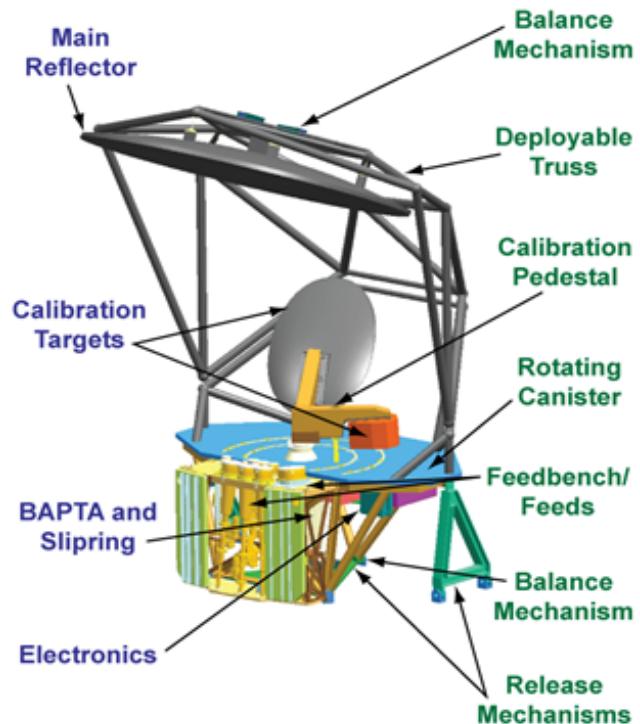
## Microwave Imager/Sounder

The Microwave Imager/Sounder collects global microwave radiometry and sounding data to produce microwave imagery and other meteorological and oceanographic data. It is the primary instrument for satisfying 16 Environmental Data Records (EDR). The MIS data will be provided on NPOESS spacecrafts C2 (2016), C3, and C4.

### Concept Design

- 6 GHz to 183 GHz measurement range
- 1.8 m main reflector
- Deployable structure
- ~1,700 km swath width
- Calibration: 2-point
- 475 kg mass
- 500 kbps data rate
- 357 W average operational power consumption

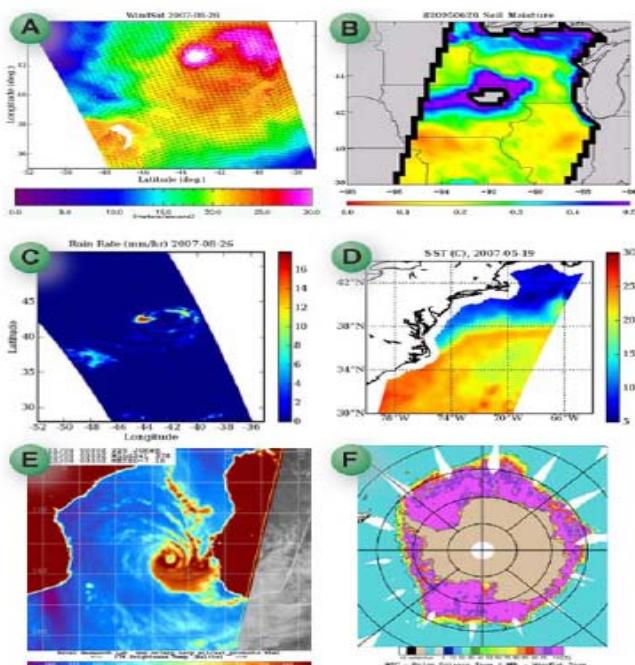
### MIS Sensor Concept



### Capabilities

- Core imaging channels: 10VH; 23V, 18VH; 37VH; 89 VH
- Atmospheric Sounding: 50.3 – 57 GHz; 150/166 & 183.31 GHz
- Low Frequency: 6.8 VH (with RFI mitigation)
- Polarimetric Channels: 10 PM or LR; 18 PMLR; 37 PM
- Upper Air Sounding (60 – 63GHz) implemented starting on C3

### Environmental Data Records (EDR)



- Sea Surface Winds\* (with Temperature) (A)
- Soil Moisture\* (B)
- Precipitation Type/Rate (C)
- Sea Surface Temperature (D)
- Imagery (E)
- Sea Ice Characterization (F)
- Ice Surface Temperature
- Snow Cover/Depth
- Cloud Liquid Water
- Precipitable Water
- Cloud Ice Water Path
- Surface Wind Stress
- Total Water Content
- Atmospheric Vertical Moisture Profile
- Atmospheric Vertical Temperature Profile
- Pressure (Surface Profile)

\* NPOESS Key Performance Parameter (KPP)